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ANNUAL REPORT

OF THE DIRECTOR
OF THE

MUSEUM OF COMPARATIVE
ZOOLOGY

AT HARVARD COLLEGE

1960-1961

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PUBLICATIONS ISSUED BY OR IN CONNECTION
WITH THE
MUSEUM OF COMPARATIVE ZOOLOGY
AT HARVARD COLLEGE

BULLETIN (octavo) 1863 — The current volume is Vol. 125.

BREVIORA (octavo) 1952 — No. 145 is current.

MEMOIRS (quarto) 1864-1938 — Publication was terminated with Vol. 55.

JOHNSONIA (quarto) 1941 — A publication of the Department of Mollusks. Vol. 4, no. 40 is current.

OCCASIONAL PAPERS OF THE DEPARTMENT OF MOLLUSKS (octavo) 1945 — Vol. 2, no. 26 is current.

PROCEEDINGS OF THE NEW ENGLAND ZOOLOGICAL CLUB (octavo) 1899-1948 — Published in connection with the Museum. Publication terminated with Vol. 24.

The continuing publications are issued at irregular intervals in numbers which may be purchased separately. Prices and lists may be obtained on application to the Director of the Museum of Comparative Zoology, Cambridge 38, Massachusetts.

Of the Peters "Check List of Birds of the World," volumes 1-3, 4 and 6 are out of print; volumes 5, 7 and 9 are sold by the Museum, and future volumes will be published under Museum auspices.

PUBLICATIONS OF THE
BOSTON SOCIETY OF NATURAL HISTORY

The remaining stock of the scientific periodicals of the Boston Society of Natural History has been transferred to the Museum of Comparative Zoology for distribution.

PROCEEDINGS — Volumes available: 3, 5, 6, 8, 11, 14-17, 20-22, 24-27, 30-34, 37. \$4.00 per volume.

OCCASIONAL PAPERS: Volume 2, \$5.00; Volume 3, \$4.00; Volume 4 (1-3), \$10.00; Volume 6, \$5.00.

MEMOIRS: Requests for some specific memoirs can be filled but no list is available.

MUSEUM OF COMPARATIVE ZOOLOGY

I submit herewith my fifteenth — and final — report as Director of the Museum of Comparative Zoology. To be able to submit a final report is an unusual privilege, for with one exception my predecessors as Museum Directors died in office. Given this opportunity, I may be permitted to review briefly the history of my incumbency.

The story of the Museum of Comparative Zoology, from the days of Louis Agassiz onward, has been one of many achievements, but at the close of the last war its position was a desperate one. Its income, derived almost entirely from endowment had never been large, and had been so reduced in purchasing power by inflation as to be hardly sufficient to pay building maintenance and basic services, and could not cope with the problem of the salaries (miserably small as most were) of a devoted staff. Help was needed if we were to survive.

Help came. The University administrative officers and governing boards, with faith in our future, allowed us a substantial deficit to tide us over the period of emergency. Most especially, George Agassiz, last of his family, gained complete confidence in our scientific goals and ideals. During his lifetime and in his will he gave us very substantial financial backing, and the same confident support was, in the years after his death, afforded us by his widow, Mabel Simpkins Agassiz. Still other friends have aided during this period, and in recent years the National Science Foundation has most generously assisted us in the improvement of our collections and building. The net result is that, although new endowment is needed for future support of the curatorial staff and for such items as exhibit renewal, we have attained a position in which the wolf is, for the moment at least, no longer scratching at the door.

Throughout this period the major emphasis of policy has been toward improving the well-being of our scientific staff, on which — rather than on fancy exhibits or imposing building facades — the well-being of a Museum such as ours depends. Too often, in the past, museum salary scales have been kept on a low level on the theory that scientific workers would willingly sacrifice themselves — and their families — financially for the pleasure of engaging in work of this sort. I need not dilate upon the folly of such a policy. It was voted by the Museum Faculty that (1) as far as possible and as rapidly as could be done, all members of the Museum scientific staff be paid on the same scale as Arts and Sciences faculty appointees of equal abilities and seniority, and, (2) as a corollary, that no tenure appointment be made without the candidate being subject to the same rigorous scrutiny as in the case of faculty appointments. This policy has been, I believe, eminently successful. We have avoided a tendency toward dangerous overexpansion, and although our staff is smaller in numbers than that of various sister institutions, its quality is of the highest. From the position which we have so far attained, I look forward to a brilliant new chapter in the history of our Museum in the able hands of Dr. Ernst Mayr.

I am thankful for the generous help I have received from all quarters — from the university authorities, the Agassizs, and other supporters. I am especially grateful to the staff for their friendly cooperation. But gratitude to the staff goes basically far deeper; for the support we have gained would not have been forthcoming had not their work and spirit clearly shown that such support was fully merited.

In the death this spring of Mabel Simpkins Agassiz (Mrs. George R. Agassiz) the Museum of Comparative Zoology has lost a valued friend and supporter. In the years following the death of her husband she repeatedly gave substantial gifts to

the Museum, for the establishment of the Henry Bryant Bigelow, Colonel Theodore Lyman and Alfred Sherwood Romer funds, for curatorial aid in vertebrate paleontology and for the exhibition program; a further series of generous gifts were included in her will. My acquaintance with her has extended only over the later years of her life, but during that time I came to have for her not only a feeling of gratitude toward a generous donor but a real affection for a warm, vigorous and attractive personality.

Mrs. Eleanor Sweet Peters died in Harvard, Massachusetts, on June 26, 1960. As Miss Sweet she came to the Museum as a librarian in 1916. In 1932 she married Curator James L. Peters, but continued in charge of the library until 1937 and retained an active interest in our affairs throughout the rest of her life.

STAFF

Mr. William C. Schroeder, Research Ichthyologist, and an authority on batoid fishes, retires this June after a long period of service with the Museum as well as the Woods Hole Oceanographic Institution; he will, however, continue work with us as an honorary associate. Deeply regretted is the resignation of James C. Greenway, Jr., Curator of Birds, who has long been a valuable member of the staff. Dr. Paynter has succeeded him as Curator. We regret the resignation of Dr. Frances L. Burnett, who has for some years aided greatly in curating the mammal collection.

A pleasant addition to our scientific family is Admiral Charles W. Thomas who, retired from the Coast Guard, is engaged in biogeographical research. Dr. W. D. Ian Rolfe has come to us from England to aid, under our facilities grant, in the improvement of our invertebrate fossil collection.

The Woods Hole Oceanographic Institution has shown itself appreciative of the past services to it of Professor Bigelow, its first director and the one mainly responsible for its organization

and early development. Two years ago a Henry B. Bigelow Chair of Oceanography was established at the Institution; last summer, in the course of a special series of meetings in his honor, the establishment was announced of the Henry Bryant Bigelow medal, to be presented from time to time for outstanding work in oceanography. Fittingly, Dr. Bigelow is the first recipient of this medal. He has been awarded also an honorary Doctor of Science degree by the University of Rhode Island.

The Daniel Giraud Elliot Medal of the National Academy of Sciences for the year 1957 was conferred this spring upon Dr. Darlington for his "Zoogeography." Dr. Carpenter completed his term of office as National President of Sigma Xi and was elected Vice-President, for biological sciences, of the American Academy of Arts and Sciences. Dr. Paynter was elected President of the Nuttall Ornithological Club, and Dr. Levi of the Cambridge Entomological Club. Dr. Whittington was re-elected Secretary of the Paleontological Society. As usual, many staff members engaged in formal teaching in the Faculty of Arts and Sciences and, on Dr. Levi's part, in the Academic Year Institute for High School Teachers of Science and Mathematics. As in every recent year a large number of students studied for advanced degrees in biology and geology with Museum scientists. Staff members were as ever in constant demand as lecturers in other institutions and as members of numerous panels and committees of national scope.

RESEARCH

Reports of staff members note close to 100 research projects, major and minor, completed or under way, ranging (for example) from studies on recent birds to ancient fossil trilobites, from the anatomy of whale throats to the chemical trails of insects.

In the Department of Mammals, Miss Lawrence completed studies of the myology of the pharyngeal region in *Globicephala*

and in related delphinids, and began cooperative studies on tooth development in sheep with J. H. Shaw of the Harvard Dental School, and on the canids that are currently moving into New England, with H. and W. Silver. Dr. Lyman continued work on the effect of the autonomic nervous system on hibernation. Mr. Schevill continued studies on cetacean biology, taxonomy and zoogeography.

In the field of ornithology Dr. Paynter became, on Mr. Greenway's resignation, joint editor, with Dr. Mayr, of the "Check List of Birds of the World," and spent several months in the editing of volume 15, which is now in press. Dr. Mayr revised several families for the "Check List" and completed several other studies on birds. Dr. Paynter continued research on the recently-made collection from India, Nepal and Pakistan and, with Frank B. Smithe, has nearly completed an avifauna of the Tikal National Park, Guatemala.

Dr. Williams' work on the herpetology of the Port-au-Prince region in Haiti and on West Indian and South American *Anolis* continues. Completed were a discussion of the anoles of the *semilineatus* group, revisions, with R. Ruibal, of the *porcatus* and *homolechis* groups of *Anolis* in Cuba, with Thomas Parsons, a study of the morphology of two Jurassic turtle skulls and, with P. E. Vanzolini, one on the *albogularis* group of the gecko genus *Gonadotes*. In an advanced stage of preparation are papers with Dr. Parsons on the structure of the teeth of the modern Amphibia, and on the relationships of the three modern orders. Work continues on South American chelid turtles, and has been initiated on a study of the important Cretaceous snake *Dinilysia* and on the reptiles of Bougainville, the latter based on the collections of Mr. Fred Parker. Dr. Ruibal, working under a Museum-sponsored grant, continued work on the taxonomy and behavior of Cuban anoles, and published a discussion of thermal behavioral regulation in certain Cuban anoles and its systematic importance. Mr. Shreve

has continued work on the sphaerodactyls of the *difficilis* group and on the frogs of the Port-au-Prince region. Grants have been received from the National Science Foundation to continue the *Anolis* studies and to bring from the Belgian Congo Dr. Raymond Laurent; his knowledge of the herpetology of western Africa, supplementing the extensive data of our retired colleague Arthur Loveridge on the eastern side of the continent, should result in the production of a comprehensive review of the fauna of the continent as a whole.

The Department of Fishes, with the addition of Dr. Mead to the staff, is a scene of constantly increasing activity. Drs. Bigelow and Mead have completed the editing of parts 3 and 4 of "Fishes of the Western North Atlantic"; the organization of contributions which will form part 5 of this work is well advanced. Mrs. Sarah Hollister and Miss Patricia Grubbs have given invaluable aid in the preparation of manuscripts and proof-reading. Mr. Schroeder and Dr. Bigelow have continued their researches on elasmobranchs. Dr. Mead has been awarded a grant by the National Science Foundation to continue his work on the oceanic fish family Bramidae. It is a pleasure to welcome Dr. Isabel Canet to Cambridge; she has identified a collection of fishes from Haiti and is now coping with unidentified Apodes. Mrs. Dick has been working on the Bathyclupeidae. In the field of entomology during the current year Dr. Darlington has worked primarily on the taxonomy of Carabidae of New Guinea and Australia, completing an installment of his "Carabid Beetles of New Guinea" which is now in press, a formal itinerary of his recent Australian trip, a general paper on "Transition of Wet Forest Carabid Faunas from New Guinea to Tasmania," and several revisional papers on flightless Carabidae of tropical Australia. Dr. Evans has completed or is working on revisions of three genera of bethylid wasps, a generic revision of the bethylids of the New World and a revision of the pompiline wasps of Mexico and Central America. He

has continued his studies on the comparative behavior of digger wasps, working especially on the subfamily Nyssoninae (Sphecidae). Dr. Evans has been given a substantial grant from the National Science Foundation to continue this work, and a supplementary grant from the American Academy of Arts and Sciences for travel to the British Museum. With the aid of a National Science Foundation grant Dr. Carpenter has continued his studies of Paleozoic insects, current work including manuscripts for part 2 of his series on Permian insects of Oklahoma and part 11 of the series on the Lower Permian insects of Kansas. A new series has been started, consisting of studies of Carboniferous insects of North America. Work on the insect volume of the "Treatise on Invertebrate Paleontology" is approaching completion. Dr. Carpenter has further made several studies on Recent Neuroptera, including an account of the Hemerobiidae of Micronesia. Professor Wilson has devoted his major interests to the taxonomy and zoogeography of ants of the Indo-Australian Archipelago and the western Pacific islands and to the behavior of ants, including the nature of their chemical trails. Dr. Levi has, with Mrs. H. Frizzell (Dr. H. Exline) revised the theridiid spider genus *Argyrodes*, completed a paper on theridiid genera and spent much time in the study of South American theridiids. Dr. Chapin has pursued work on coccinellid beetles, especially those of Micronesia, and Dr. Chickering has been working on Central American and West Indian spiders. Dr. Chapman is completing a paper on the ecology of Philippine army ants of the genus *Aenictus*. Dr. Fairchild continues his work on neotropical biting flies. Professor Wilson and our associate and former colleague Dr. Brown have begun work on a general book on ants which should be an outstanding contribution to entomology. Dr. Deichmann, besides continuing work on Antarctic holothurians, has completed a report on New England echinoderms, and a small report on Selenka's long-lost

Thelenota formosa, discovered in the Marshall Islands — this with Mr. R. A. Boolootian. She is completing a further report on Puerto Rican shore echinoderms, gorgonians and stony corals, and during the year has worked on stony corals from Colombia and holothurians from the Dutch West Indies.

In the Department of Mollusks, the monographing of the marine mollusks of the Western Atlantic continues to be a major center of interest; this year Drs. Clench and Turner have completed and published an 80-page report on the genus *Calliostoma*. As part of this project Dr. Turner has nearly finished her catalogue of the Teredinidae of the world — a major task, which has involved two trips to Europe to examine types and numerous drawings of all types that could be located. The department had long since begun to catalogue the enormous number of names introduced by Dr. H. A. Pilsbry in the field of malacology. This had been begun because of local needs, since numerous unmarked Pilsbry types were in our own collections. Since, however, this catalogue could be of great value to malacologists generally, its completion and publication have been urged upon us. Funds for publication have been made available and it should be in press within the coming year.

Among the workers in vertebrate paleontology, Professors Simpson and Patterson, with Dr. Minoprio, have completed a paper on the mammalian fauna of the Divisadero Largo formation of Mendoza, Argentina, and the two have devoted much time to the "Glossary and Correlation of the North American Continental Cenozoic." Dr. Simpson has, in addition to these joint projects, made studies of the history of evolutionary ideas. Professor Patterson has further completed, with Professor McGrew, two short papers on a new arctocyonid and a picrodontid insectivore from the Paleocene of Wyoming, and has

carried on studies of cynodonts, Mesozoic mammals, insectivores and Cuban birds. Dr. Edinger has during the year completed papers dealing with the role of paleoneurology in the study of brain size problems, and on reflections of specialized behavior in endocranial casts of extinct reptiles, birds and mammals. A National Science Foundation grant enabled Dr. Edinger, with the collaboration of Clayton E. Ray, to begin work last summer on the preparation for publication of an annotated bibliography of works on paleoneurology. I have been able to devote a limited time to studies on Carboniferous amphibians. At long last the bibliography of the literature of vertebrate paleontology exclusive of North America, on which we have been working for some 24 years, is nearly ready for the printer. The entire bibliography, of some 1620 pages, has been typed for photographic reproduction and except for some final editorial work by Miss Wright, is ready for submission. Dr. Whittington has finished a draft of a paper on the stratigraphy and faunas of the Bala area of North Wales and a first part of a monograph of the Ordovician trilobites of this area — the latter to be published next year by the Palaeontographical Society of London. Work on a large trilobite fauna from western Newfoundland is well advanced. Dr. Kummel has completed a manuscript on the Nautilida for the "Treatise on Invertebrate Paleontology," a general account of the evolution and classification of the Nautilida, and studies of numerous Hyatt nautiloid genotypes and type species.

EXPEDITIONS AND TRAVEL

As usual, various staff members traveled widely for lectures, conferences and symposia, and for study in other institutions. We may note, for example, the attendance by invitation of Professors Patterson, Romer and Simpson at a conference on the evolution of mammalian dentitions in Brussels last September,

and their further participation in the annual meeting of the British paleontologists and comparative anatomists at Oxford; Dr. Simpson's attendance at the tercentenary celebrations of the Royal Society of London; Dr. Whittington's attendance at the International Geological Congress in Copenhagen.

Advantage was taken by various staff members of opportunities for field work. Mr. Schevill profited in his work on whales through participation in various cruises in the North Atlantic under Woods Hole Oceanographic Institution auspices, and Dr. Mead (who has been appointed an Associate of the Institution) took part in two of their cruises. For the Department of Reptiles and Amphibians Dr. A. S. Rand and Mr. James Lazell visited Haiti last summer, securing several new forms and obtaining much distributional and ecological information. Mr. M. Luc Whiteman of Haiti collected numbers of valuable and rare forms in the Port-au-Prince area and in the southwestern peninsula of Haiti.

Professor Carpenter made a month's collecting trip to Permian beds in Noble County, Oklahoma, last summer, and a short field trip to western North Carolina this spring to obtain living specimens for cytological and genetical studies of the scorpion fly *Brachypanorpa*. Dr. Evans spent the month of May at the Archbold Biological Station in Florida, working primarily on the behavior of digger wasps. Dr. Levi, as customary, spent last summer in Colorado, and a short collecting trip to Utah this spring resulted in surprisingly large collections. Professor Wilson is spending the spring and the coming summer in Trinidad and the adjacent part of South America. Mr. Foster made an extended trip to Madagascar to collect marine mollusks; this was a joint expedition of the Academy of Natural Sciences of Philadelphia and our Museum, and the large collections obtained will be shared by the two institutions. Professor Patterson, accompanied by preparator Jensen, spent much of last summer in Wyoming, in cooperation with Professor

McGrew of the University of Wyoming, in applying the washing technique to early Tertiary fossil-bearing materials. Dr. Simpson took advantage of his trip to Europe last summer to visit the Tertiary mammal beds of northeastern Spain under the tutelage of Dr. Crusafont Pairó of Sabadell. Currently he is visiting the Cenozoic fossiliferous deposits of Kenya and Tanganyika at the invitation of Dr. Leakey of Nairobi. This spring, with Mr. Jensen, Mrs. Romer and two graduate students, I spent a profitable month collecting in the Wichita Permian beds of Texas. Dr. Whittington did field work in northern Wales and plans to spend the coming summer in further work in Newfoundland.

COLLECTIONS

During the year funds from the previously-reported National Science Foundation grant have continued to be of use in nearly every department, making it possible to obtain technical and scientific aid in the improvement of the collections and, to a lesser degree, to house the collections in better fashion.

In the mammal department, new cases have been constructed for the larger delphinids, and parts of the collections have been revised and spaced out. As noted above, the departure of Dr. Burnett is greatly regretted, but Mr. Charles W. Mack is continuing effectively as a curatorial assistant.

In ornithology, the skin collection is for the most part in good condition; it is crowded but with the construction of new cases under grant auspices, the housing will soon be satisfactory. A large storage case has been completed in room 507 and construction of new cases in room 501 (formerly occupied by the fossil fish collection) is well advanced. The growing alcoholic collection needs attention and its improvement, it is hoped, will be the next major project. Work on rearranging and boxing

our skeletal materials is nearly completed, making them accessible and useful for the first time in many decades. With financial assistance from Mr. Frank B. Smithe we were able to purchase a collection of about 500 skins from Guatemala, supplementing our earlier holdings to give us the widest representation from that country to be found in any Museum.

More than 5500 amphibians and reptiles were catalogued and added to the collection during the year; exchanges, some extensive, were made with 14 institutions or individuals, and about 1000 specimens were sent out on loan. An extensive collection of Arizona reptiles and amphibians was purchased from R. Paull and J. Purcell. The skeletonization program was continued. The work space in the snake room was totally rebuilt to provide a more nearly functional area and a number of additional cabinets built; an extensive reorganization of the collections followed, with the result that in some of the formerly crowded areas limited addition of new material is now possible.

Sections of the fish collection have been rearranged in order to create much needed space. Several new large steel tanks and three additional "coffins" have made it possible to accommodate the larger fish specimens in better fashion. One hundred lots of specimens have been added to the collections, notable additions including bathypelagic specimens from Dr. R. H. Backus. A fine *Aarapaima gigas*, secured from South America through the efforts of Dr. Paynter, will be cast and used for exhibition.

In the department of insects, continued use of National Science Foundation funds has allowed good progress to be made in arranging the most important and useful parts of our collections in trays. As a result of Dr. Brown's work on it before leaving for Cornell last fall, our ant collection is not only, we believe, the world's best collection, but is now probably the best in arrangement as well. There is, however, much still to be done on it such as the incorporation of Dr. Chapman's Philippine material — a task which we hope to accomplish in the near

future. Dr. Evans has made tremendous progress arranging the wasps and other Hymenoptera. In the Coleoptera room, transfer of the Liebeck and other collections into trays has continued and the task of mounting, labelling and roughly arranging Dr. Darlington's Australian Carabidae has been completed. The drawers of the Diptera collection have been rearranged in the order of the Brues-Melander-Carpenter volume by Miss Karen Thimann under Dr. Darlington's direction, and arrangements have been made with Dr. Wirth to spend a month here this summer to plan a more fundamental reorganization of our Diptera. Dr. George F. Edwards, Jr., spent last September in arranging the mayfly collection and Father Thomas Borgmeier was retained for two weeks in May to arrange our phorid flies including the Brues collection with its many types. Dr. Levi has, after four years of effort, finished curating and arranging the sorted spiders; all of the vials now have new stoppers or are in mason jars. Work has begun on the unsorted collections. The North American sorting is nearing completion through the efforts of Mr. Allan Brady, but there are other huge collections still to be sorted, some going back to Louis Agassiz's time. We are indebted to Dr. E. A. Chapin for continued advice and assistance and to Professor W. T. M. Forbes for work on and aid with the Lepidoptera. The work of Mrs. McKown, Mrs. Bush, Mrs. Kinnaid and Mrs. Todd has been most valuable.

Dr. Humes has presented us with a considerable number of echinoderms, collected on his recent expedition to Madagascar. In the mollusk department the remainder of the Jeanne S. Schwengel collection, including 8038 lots, was received this spring. We also received the Frank N. Balch collection of 1065 lots, mainly of New England material. The preliminary processing of both these collections is now complete and it is hoped that within the year they will have been completely worked into the main collection.

In vertebrate paleontology, progress has been made in working up the material from our Argentinian expedition — much of it in a difficult matrix. Under National Science Foundation funds, much of a backlog of unworked material, particularly from the Texas Permian and the Thomas Farm Miocene, has been prepared to at least the point where it can be identified and catalogued. Professor Patterson's work in Wyoming is giving us a start toward a representation of the mammals of the early Tertiary, previously almost non-existent in our collections.

Very considerable progress has been made toward getting our large and valuable invertebrate fossil collections into working order, and materials once cased in the first floor hallway and two rooms adjacent have been moved to better quarters in rooms at the far end of the east wing. It is hoped that within the next year or so the exhibition material now present in two first floor rooms may be evacuated, following which the entire invertebrate collection, together with Drs. Whittington and Kummel's offices and laboratories will have been consolidated in a series of seven rooms in the first floor east wing. Cleaning, cataloguing and rearranging of the echinoderm and brachiopod collections has been completed and similar work on the trilobite collection is making good progress. Dr. Rolfe is performing valuable work on the cleaning, identification and cataloguing of the arthropods other than trilobites.

LIBRARY

The library continues to flourish and progress under Miss MacKenzie's able leadership. Most conspicuous of improvements is the rearrangement of the geological holdings. As noted in earlier reports, an anonymous gift has been instrumental in expanding our materials in this field, and the room containing geological journals and geological survey publications had become stuffed to the bursting point, with books overflowing

onto the floors and window sills. A new stack room has been completed and opened, and our geological holdings are now housed in comfortable fashion in the two rooms at the east end of the library area.

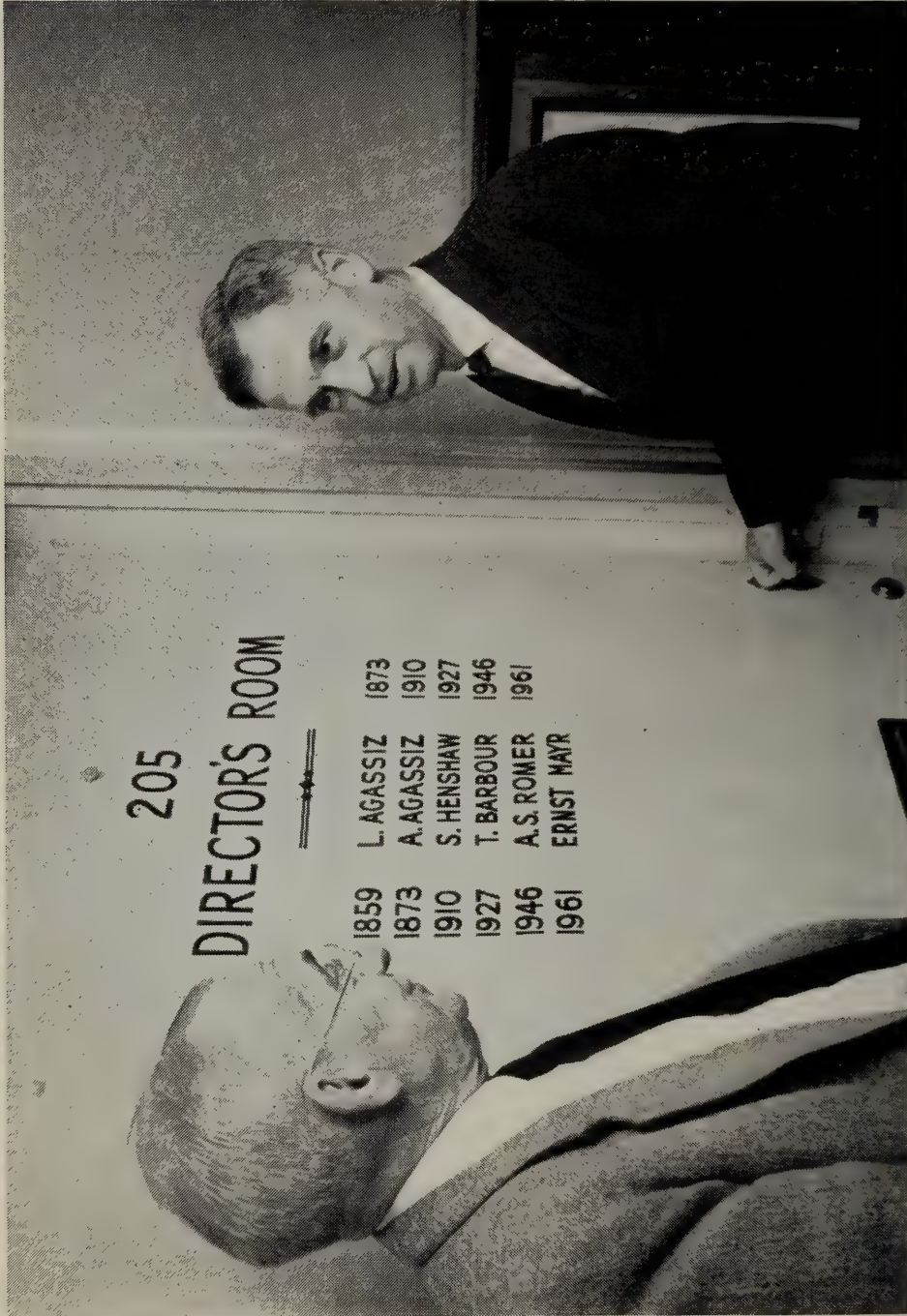
On statistics: 75 new general exchanges have been arranged during the year, adding 120 new titles; these exchanges now total 1064, from which we receive 1930 titles. The special geological exchanges, mainly with geological surveys, now total 240. A very considerable number of books not pertinent to our interests have been weeded out, but there has nevertheless been a net increase of 3,485 volumes and pamphlets, bringing our total holdings to 246,123.

PUBLICATIONS

During 1960-61 a total of 1259 pages were published, under Miss Wright's editorship. These include volume 123, numbers 1-9, volume 124, and volume 125, numbers 1 and 2 in the *Bulletin*, and numbers 127 to 142 of *Breviora*. Notable was the publication of a special volume containing the papers given in the hibernation symposium organized by Dr. Lyman. As usual, the Museum sponsored publication of a series of papers in *Psyche*. The Department of Mollusks published one number in *Johnsonia* of 80 pages and one number in *Occasional Papers on Mollusks* of 30 pages. A long list of publications by the staff is appended to this report. Notable, in addition to numerous research reports, is the appearance of Dr. Kummel's book entitled *History of the Earth*.

EXHIBITS

Last summer a hall containing part of our fossil mammal series was opened to the public. Funds for continuation of the exhibit renovation program are, however, exhausted, and this badly needed work must come to a standstill unless support can



“The old order changeth, yielding place to new.”
Professor Romer (left) welcoming Professor Mayr (right) to his new office as Director of the Museum.



Collecting vertebrate fossils in the Permian of Texas, April 1961.

be found. Our Museum shop, established last year by Dr. Paynter has proved surprisingly successful, and promises to afford a steady if modest source of income for future exhibition work. We are grateful to Mrs. Max Hall who is in charge of the shop, and also to Mrs. Don Price and Mrs. Katherine Babcock for their enthusiastic interest in this enterprise.

Last autumn an attractive temporary exhibit, prepared by the Museum of Zoology in Copenhagen, reviewed the important work in biological oceanography performed by the Danish "Galathea" Expedition. We are grateful for the gift of a series of interesting deep sea invertebrates presented to us at that time by the Copenhagen Museum.

BUILDING

During the last fiscal year funds from the Museum's reserves were utilized to repair our copper roof, some 80 years old; it is now in such shape that we should be adequately protected from the weather for a number of decades to come. The past winter the Department of Buildings and Grounds has redecorated a very considerable series of rooms and funds from the Faculty of Arts and Sciences has aided in establishing a proper office and workroom for Dr. Kummel and in putting into excellent shape certain of the storage rooms for invertebrate fossils. Currently the first floor classroom and the adjacent paleontology laboratory are being remodelled and improved.

With the increasing staff and student activity we have become badly cramped for office and work-room space; further, our main staircase area, widely open from first floor to roof, has been a major fire hazard. A generous grant from the National Science Foundation has solved these difficulties. Three rooms on the first floor formerly devoted to fossil exhibits are being redesigned to give six offices or workrooms of generous size. Most especially, both main and court staircases are being

removed, and replaced by stairs less wasteful of space as well as fireproof in nature. Their rebuilding will allow the space saved to be converted into 11 new office rooms.

ACKNOWLEDGMENTS

A number of gifts were noted earlier; in addition the departments are indebted to numerous friends for donations of specimens or aid in other ways. Bird Department: James Baird, Jose I. Borrero, William K. Broudy, Frances Burnett, Stanley Cobb, Edith V. Fogler, Jack P. Hailman, Norman P. Hill, Mrs. Llewellyn Howland, Herbert Levi, Arthur Loveridge, Alva Morrison, Mrs. A. J. Munnick, Walter P. Nickell, Philip Dana Orcutt, Mrs. William Robinson, Mrs. Beryl Scott, Frank B. Smithe, Walter Stone, James Whalen. Reptile and Amphibian Department: R. Baldauf, J. H. Bristol, M. Dix, R. Etheridge, T. Frazzetta, G. Hegeman, J. Jensen, A. Konnerth, A. Kluge, A. Loveridge, T. Monath, Niceforo Maria, F. Parker, A. Rand, R. Ruibal, and G. Underwood. Department of Fishes: R. H. Backus, Harvey Bullis, J. Cadenat, Daniel Cohen, J. Garrick, R. Strahan, V. Walters. Department of Insects: Nell Causey, R. Chew, A. M. Chickering, G. B. Fairchild, W. W. Gibson, D. E. Johnson, D. Lamore, Carl Lindroth, A. Loveridge, Mr. and Mrs. W. Miller, R. Nero, D. R. Oliver, Christine L. Reed, R. X. Schick, H. Stahnke, R. Underwood, P. Windle, C. C. Wolff. Department of Marine Invertebrates: Dr. Otto Degener, Alan J. Kohn, Lowell P. Thomas. Department of Mollusks: Mrs. Z. W. Craine, Eliseo Duarte, Peter Hensen, M. McCoy-Hill, Pedro de Mesa, R. D. Purchon, D. and N. Schmidt, Mrs. Alfred M. Tozzer. Department of Invertebrate Paleontology: Dr. W. B. N. Berry, Eric N. Kjellesvig-Waering, Hyman Saul, W. F. Whittard.

ALFRED S. ROMER, *Director*

MUSEUM OF COMPARATIVE ZOOLOGY

FACULTY 1961-1962

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- No. 128. Size of endoceroid cephalopods. By Curt Teichert and Bernhard Kummel. 7 pp. December 20, 1960.
- No. 129. Type and type locality of the Gulf Coast spiny softshell turtle, *Trionyx spinifer asper* (Agassiz). By Robert G. Webb. 8 pp. December 21, 1960.
- No. 130. The mechanisms of carapacial and plastral hinges in chelonians. By R. V. Shah. 15 pp. December 22, 1960.
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- No. 133. On the generic limits in the family Pilidae (Prosobranchia; Mollusca). By Edward H. Michelson. 10 pp. February 27, 1961.
- No. 134. Enzymatic constitution of *Alsophis* saliva and its biological implications. By George Hegeman. 8 pp. February 28, 1961.
- No. 135. Notes on Hispaniolan herpetology. 2. A review of the *Anolis semilineatus* group with the description of *Anolis cochranæ*, new species. By Ernest E. Williams and A. Stanley Rand. 11 pp. April 7, 1961.
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- No. 138. Pfeiffer's unfigured species of *Strophocheilus* (*Megalobulimus*). By T. E. Crowley and T. Pain. 8 pp. June 14, 1961.
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